small, the maxillæ are very thin and semitransparent, terminating in two deflexed hooks. The prothorax is quasi-bipartite, the anterior part very slightly broader than the head, with the lateral angles acute; it is dilated behind in the middle, and has a longitudinal depression in the centre, not reaching to the anterior margin; the hind part has the lateral portions elevated and of a blackish colour, with a small patch of fulvous hairs in front: the centre of the prothorax is deeply impressed, the hind central portion forming two lobes rounded in front. The elytra have a large black patch, occupying at least half of the hinder portion of the disc, leaving a narrow rufescent margin; they are margined with numerous long reddish bristles, both along the sides and posterior margin; the podex is also similarly margined with shorter hairs. The femora are pitchy, and the remainder of the legs reddish; they are comparatively short and stout, without any marked distinction between them in size or thickness. The basal joint in all the tarsi is minute. The entire insect is destitute of gloss on the surface; it is very obsoletely punctured, but it is clothed throughout with very minute luteous setæ.

Fig. 1. *Paussus Jerdani;* 1*a*, maxilla; 1*b*, maxillary palpus in another position; 1*c*, antennæ; 1*d*, leg.

VII. *On the Gall formed by* Diphucrania auriflua, Hope, *a Species of* Buprestidæ. *By* W. W. Saunders, Esq., F.L.S.

[Read 7th February, 1847.]

(Pl. II. figs. 5—9.)

Mr. Wm. Stephenson, while resident at Sidney, New South Wales, discovered a kind of excrescence or gall on the branches of Pultenæa stipularis, and having obtained several for examination, it became evident to him that they were caused by the larva of a small *Buprestis*, which I find to be the *Diphucrania auriflua* of Mr. Hope (Pl. II. fig. 9). Mr. Stephenson, supposing this fact to be new to Entomologists, kindly forwarded to me a series of the galls, containing both the perfect insect and the larva, from which I have been enabled to draw up the following account, which I beg leave to lay before the Entomological Society. To allow me to see the insect in its various states Mr. Stephenson immersed the galls soon after obtaining them in boiling water, by which means the vitality of the insect was destroyed, and by cutting the galls open I was able to take out both larva and imago,

much in the same state as when procured by Mr. Stephenson in New South Wales. The galls when full grown vary from $\frac{2}{3}$ inch to 1 inch in length, are of an oval shape, and in all the specimens which I have seen are broader than the branch on which they are formed. They usually occur singly, but occasionally two are found together as shown in Pl. II. fig. 5. Externally they are of a reddish brown colour, somewhat resembling the colour of the bark of the plant which nourishes them, and present a rather rough warty appearance. The anterior of the gall appears to be a spongy mass of woody fibre, with an external covering of wood in its natural state. Various irregular passages run through the spongy portion of the interior, extending as far as the centre of the branch, near which in advanced galls an elongated chamber will be perceived, in which the larva changes to the imago state. When this change takes place, the perfect insect eats its way out of the gall, making a rounded aperture for its exit, as shown in the upper gall of fig. 5. The larva (fig. 8) is apodal, about $\frac{4}{10}$ inch long, nearly cylindrical, and 13-jointed. The forepart of the body is abruptly truncate, with the first two joints smaller than the third, which is about as broad as the tenth, the intermediate ones being somewhat narrower; the remaining joints form a rounded termination to the body, the last joint being small and somewhat bifid. On the back the joints are depressed in the centre, by a channel which runs longitudinally from the head to the other extremity. The parts of the mouth are small and of a dark brown colour. The general colour of the larva is a brownish yellow or horn colour. Mr. Stephenson says he found the larva in the month of June, which answers to the month of December in this country. The perfect insect, I should suppose, appears in the spring or early summer of New South Wales, but Mr. Stephenson has given me no information on this point. It appears to be common in the neighbourhood of Sidney. To illustrate the economy of this gall-forming *Buprestis*, I have figured three galls as they appear on the branches of the Pultenæa, as well as sections of two other galls, to show their internal formation. From one section (fig. 6) a larva was taken. From the other section (fig. 7) a perfect insect was obtained. I have also given in fig. 8 as correct a representation of the larva as my means would allow, for I think it necessary to state that the foregoing description of the larva, as well as the figure, were both taken from a specimen in the dried state, but in such good preservation that I think both will be found very near the truth.